Interview with Orion Samuelson

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Interviewer: Mark DePue

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DePue: Here's another evolution or revolution, if you will. You alluded to this earlier: GPS.

Samuelson: Major change.

DePue: How has that impacted farming?

Samuelson: It's impacted it in several ways. Again, it has increased the efficiency. But, I think what is probably the biggest benefit of all, it has allowed the farmers to apply fertilizer where it's needed. Let me explain that because it was so well demonstrated to me at a Wisconsin Farm Progress Days event quite a while ago. I'm standing looking at a monitor and I see this moving line going across the monitor screen and it changes color as it goes. Then I look out at the corn field and it's a combine that's crossing the cornfield, and that's what I'm seeing on that screen. The reason it changes color is, there are yield monitors on the cutting bar of that combine that every twelve inches gives you the yield that's coming across that combine. Where the color changes is when the yield increases. I think in that field at that time in one trip across the field the yield went anywhere from ninety-eight to one hundred and twenty-two bushels that was being harvested as it moved across that line. Well, it was kind of a hilly field, so if it was on top of the hill you'd be getting less yield; then as you'd go down where the richer soil was you'd get heavier yield. So it gave you that kind of a read-out on the yield. So now let's fast-forward to springtime when it's time to put fertilizer on that field. You take that same computer card that measured the yield and it will be programmed to put into the fertilizer applicator truck when it's there to put more fertilizer where the yield was greater since that took more nutrients out of the soil, and less fertilizer where the yield wasn't as great because that didn't take as much of the nutrients out of the soil. So as a result you are putting down pretty much what you really need as you move across that field thanks to GPS.

DePue: Does that mean you got a lot less of that fertilizer that's ending up in the water system?

Samuelson: Yes, yeah, because you're using what is needed. Secondly, you are not doing any doubling. If you're doing the driving and you're tilling the field or putting fertilizer on, yeah, you've got the marker out here, but you may be a foot or two feet over the marker so you're applying double amount there, you've already put down an amount and now you're going back over and doing it again. You're using more fuel because you're not covering as much of the field with each pass. You put all that together and it just raises the efficiency of what you are doing. There was a time when you'd sit in the cab of the tractor and when you got to the end of the row you'd physically turn the tractor. Now you no longer have to do that. You can program that in and it will get to the end, it will raise the tillage equipment, it will make the turn and it will go right back. I know some farmers in North Dakota who at planting time run the tractor twenty-four hours without a driver. They just keep it going. You don't have the fatigue factor and you don't have the doubling, you don't have the missed rows and that sort of thing so it has made the use of the production tools much more efficient.

DePue: Same analogy for herbicides and pesticide application?

Samuelson: Same thing, that's right. Because again, you're not doing any doubling, you're not going over an area. You know, okay, it's not much; it's a foot or two feet, that's not much. But when you add up the entire hundred acres or hundred and sixty acres then it really does make a difference.